

## REMARKS

### Introduction

Claims 1-29 were pending in the above-identified patent application.

Claims 1-8, 12-16, 20, and 22-25 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Bonaccio et al. U.S. Patent No. 5,706,222 (hereinafter "Bonaccio").

Claims 9-11, 17-19, and 21 have been objected to as being dependent upon a rejected base claim.

Claims 26-29 have been allowed.

The drawings have been objected to.

The Examiner's rejections and objections are respectfully traversed.

### The Drawings

The Examiner has objected to the drawings "because lines, numbers & letters in Figs. 1-9 are not uniformly thick and web defined, clean, durable, and black." Accordingly, applicants are submitting herewith formal drawings to be substituted for the informal drawings previously filed with this application. Applicants respectfully request that the objection to the drawings be withdrawn.

Applicants have also amended FIG. 5B to include a label at one of the output branches of a decision block. No new matter has been added and the amendment is fully supported by the originally-filed specification (applicants' specification, pp. 22-23, ¶¶ 45-46). In

anticipation of approval of the drawing correction, a formal drawing of FIG. 5B incorporating the correction is being concurrently submitted herewith.

Claims 1-25

Applicants have amended claims 1, 9, 10, and 16 to more particularly define the claimed invention. No new matter has been added and the amendments are fully supported by the originally-filed specification (see, e.g., applicants' specification at p. 4, ¶ 9; pp. 13-14, ¶¶ 31-32).

Applicants' invention, as defined by amended claims 1-25, is directed to apparatus for determining when a differential input signal is a valid signal. The apparatus includes a dynamically adjustable signal detector and control circuitry. The dynamically adjustable signal detector receives the differential input signal and outputs a signal indicating the validity of the differential input signal based on at least one threshold setting (e.g., differential voltage, peak power, average power). The control circuitry receives at least one control signal that is used to set the dynamically adjustable signal detector with the threshold setting. The control circuitry can also change the threshold setting based on the control signal that is set in response to detecting at least one predetermined condition (e.g., change in signaling protocol, system component aging, environmental change, change in communications link, predetermined time period).

Applicants respectfully submit that Bonaccio does not show or suggest a dynamically adjustable signal detector and control circuitry operative "to change the at least one threshold setting [or differential voltage threshold] based on the at least one control signal that is set in response to detecting at least one predetermined condition" as recited in applicants' amended independent claims 1 and 16.

Instead, Bonaccio describes a peak detector with a number of detection modes selectable by a user for servo data fields (Bonaccio, col. 1, lines 52-53). The analog section of the peak detector includes programmable threshold differential comparators whose thresholds are programmed by the user using threshold controls bits (Bonaccio, col. 4, lines 21-44).

As stated in the Background of the Invention section of Bonaccio:

each drive manufacturer has a different set of requirements for the peak detection algorithm used to recover the data. While it would be possible to design a custom peak detector for a given set of requirements, doing so is impractical in an industry whose produce lifecycles are less than a year long. Hence, a generic peak detector macro with a number of detection modes specifically targeted for servo data recovery is desirable

(Bonaccio, col. 1, lines 34-41). Thus Bonaccio is directed to providing drive manufacturers with a generic peak detector macro that allows each manufacturer to customize its peak detector according to its particular requirements. To that end, Bonaccio only describes programming user selected thresholds for the differential

comparators of a peak detector once. Bonaccio does not describe changing the thresholds of the differential comparators based on detecting a predetermined condition.

For at least the foregoing reason, applicants respectfully submit that independent claims 1 and 16 are allowable over Bonaccio. Claims 2-15 and 17-25, which depend from independent claims 1 and 16, respectively, are therefore also allowable over Bonaccio.

Claims 26-29

Applicants note with appreciation the allowance of claims 26-29.

Conclusion

Applicants respectfully submit that this application is now in condition for allowance. Accordingly, prompt consideration and allowance of this application are respectfully requested.

Respectfully Submitted,

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AMENDMENT TO THE DRAWING

Please approve the following amendment of  
FIG. 5B as indicated in red ink on the enclosed marked-up  
copy:

FIG. 5B, the arrow from decision block 554 to  
block 566 should be labeled --NO--.

Attachments: Annotated Sheet Showing Change to FIG. 5B  
Formal Drawings for FIGS. 1-9

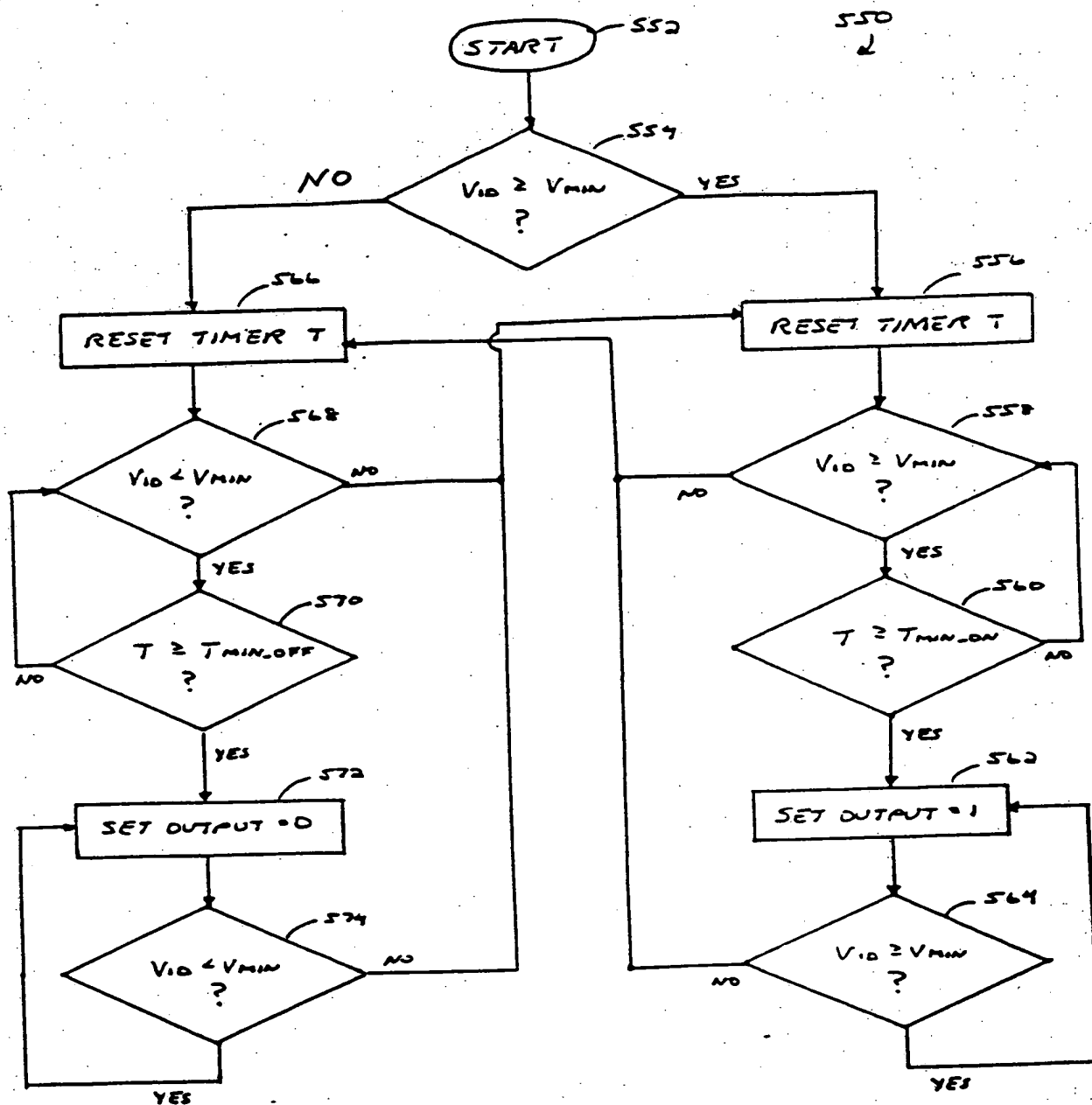


FIG. 5B